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ORIGINAL ARTICLES.

ATROPHY OF THE PLANTAR CUSHION.

By G. Chenier. Translated by A. Liautard, M.D., V.S.

(*Continued from page* 370.)

II.—III.

CAUSES AND DIRECT CONSEQUENCES OF THE ATROPHY OF THE PLANTAR CUSHION.

J'ai toujours remarqué que les maréchaux qui abattent beaucoup les talons, les barres et la fourchette sont ceux entre les mains desquels les chevaux deviennent le plus souvent encastelés.
—L. Lafosse.

I always observed that the horse shoers who pare the heels, the bars and the frog the most, are those in whose hands horses become the most hoof-bound.
—L. Lafosse.

The navicular bone transmits necessarily to the plantar cushion, through the terminal aponeurosis of the perforans, the entire sum of the pressions that it receives. During excessive motions of the extension of the fetlock joint, the os coronæ presses also upon that same organ.

It is consequently upon the fibro-elastic apparatus of the foot that at last is thrown by the navicular and the os coronæ, a por-

tion of the pressure of rest, whose quantity increases or diminishes according to the degree of inclination of the phalangial axis.

On the other side, in a foot well made, which has not been distorted by the shoer, in a virgin foot, the frog and bars come in contact with the ground at each step of rest (this fact is acknowledged by all who have seen feet which have never been shod), and then with the wall assist in the support of the body and like it also, if not more, in the amortizement and diminution of the reactions.

In the physiological condition, the plantar cushion is therefore submitted to opposite pressures, which are necessary to its vitality, as every organ must perform its function to preserve its integrity of size and form.

It is consequently logical to admit that each time this pressure is diminished, attenuated or destroyed, the vitality of the plantar cushion will be diminished in proportion. It is indeed what happens; first—when there is insufficient exercise and specially complete inaction; second—when the frog is pared too much and ceases to rest on the ground; third—when as consequences of pain, an extremity is more or less relieved from resting on the ground.

Now, every diminution in functional activity, carrying with itself an organic atrophy so much more rapid and marked that it is greater and more prolonged, it is also logical to admit that the plantar cushion—which is truly no exception to the common rule of all organs—must fatally undergo a change of atrophy every time that it is exposed to any of the causes above referred to; when for instance the frog is relieved from pressure by excessive paring; again when the animal remains inactive in the stable, because, as M. Bouley says, though he attributes this fact to a different reason, "if the feet support in this case, the pressures which directly correspond to the weight of the body, they are never like those which act during locomotion, which increase with the rapidity of the motion of the body." The plantar cushion must undergo a motion of atrophy more marked yet, where these two causes act simultaneously and when also a leg is totally relieved from pressure at rest during intense lameness.

Observation rigorously proves these hypotheses, specially if applied to the anterior extremities alone. If the hind feet form exception to the rule—and even not always as we will show it further on—it is probably due to the physiological play of both; the former being agents of support, the latter of progression.

By its atrophy, the plantar cushion has for direct results: first—to carry in its motions of shrinkage the corresponding regions of the wall—which must remain perfectly adapted to the size of the parts they enclose—that is to produce the contraction of the posterior regions of the wall; second—to occasion the straightening of the branches of the sole; third—to bring on the atrophy of the frog which forcibly follows that of the pyramidal body. And besides, as the frog diminishes in size, its resting becoming less and less, the effect becomes in its turn an occasional cause.

From the above, we will draw the deduction that the disease called hoof-bound (encastelure), is the necessary consequence of the primordial atrophy of the plantar cushion.

We know that this conclusion is radically opposed to received ideas, and that in expressing it, we are entirely contrary to what is generally admitted, but it is with conviction that we do so after being satisfied that all causes to which the development of hoof-bound has been so far attributed were all hypothetical.

Indeed, upon what basis was it admitted that the contraction of the wall preceded and produced the atrophy of the plantar cushion? Simply upon considerations which, by being repeated over and over again, began at last to appear logical. It is true and possible that certain external influences may not be entirely unconnected with the development of this disease; but if this action is real we will see that their importance has been much exaggerated.

1. Have horses of a meridional breed a peculiar predestination to become hoof-bound?

Peu fondée est l'opinion qui considère l'encastelure comme une conséquence nécessaire et fatale de l'organisation primitive des individus originaires des pays méridionaux. —H. Bouley.

How little founded is the opinion which considers hoof-bound as a necessary and fatal consequence of the primitive organization of individuals bred in southern countries.—H. Bouley.

This observation of M. Bouley seems to us very correct. It is beyond doubt that hoof-bound is more frequently observed amongst horses of meridional origin than in those bred north. It is due, not to their origin, not to a special hereditary constitution, but to the fact that the effects of shoeing to the point of view of the conservation of the form of the foot, are so much more injurious, that this organ is narrower. Let us try to prove it.

In a southern horse, with feet relatively narrow, high heels, thin frog, French shoeing as it is generally practiced, has for result, to screen the frog, more or less, from contact with the ground. In northern breed, on the contrary, with their wide expanded feet, low heels, the frog, even pared to excess, yet rests upon the ground. And let us add that amongst these last horses, many are employed for the work of the farms, and that then the foot, sinking in the soft ground brings pressure to the plantar surface. French shoeing having for effect to remove the natural conditions of the foot, is it surprising that its pathological consequences are more marked in one animal than in the other? No, and it is useless to invocate for this result, the influence of special hereditary constitutions.

This opinion is confirmed by the fact that the virgin foot of the Arab horse, or of the mare of Tarbes is never hoof-bound, and by the other fact that Arab shoeing, deficient as it may be or seem to be, has never for effect given rise to that lesion. It is because the Arab horse-shoe is a bar shoe, and that the frog takes its portion of pressure as in the normal state.

To resume, the frequence of hoof-bound in horses of meridional breeds is not the effect of special predisposition; but the result of external causes.

2. As cause of hoof-bound, the influence of the fixedness of the shoe by the nail has been considered. Is the opinion justified?

Whatever may be the adopted opinion relating to the expansability of the posterior parts of the foot; whether with MM. Bouley, Merche, Rey, Goyau, etc., it is admitted that the foot is elastic, or with MM. Reynal and Lafosse, that it is unchangeable in its form, it does not seem to us possible, to grant to the fixedness of the shoe by the nails, any influence upon the production of hoof-bound.

On what basis does the admission rest? Upon a pretended immobilization of the wall by the nails which secure the shoe. For the nails being an obstacle to the expansion of the regions in which they are implanted, viz, the anterior parts of the wall, these must be expansible. But we know that the os pedis receives no real displacement; it is then impossible to admit that at every step of rest, an expansion of the regions of the wall which adhere to it, would take place, without having a stretching of the laminæ, of the podophyllous and keraphyllous tissues.

Though we were well satisfied of the inexpansibility of the anterior regions of the wall, we have experimentally proved it. To that effect we took a double impression of the contour of the wall in two different conditions. In a first operation the foot, being properly pared, rested upon a board covered with a sheet of white paper, the board being raised a little from the ground, so that the foot supported only the weight of the extremity. In this position the outlines of the inferior border of the wall was taken. The second operation was made with the foot at rest, an assistant on the back of the animal to increase the pressure at rest, and the opposite foot raised. We have repeated these experiments a number of times upon animals four or five years old; and so as to make them more rigorous, we sometimes placed upon the inferior border of the wall a thin metallic plate; and always we have obtained two drawings which corresponded exactly to each other, at least as far as the anterior regions were concerned, those in which the nails are implanted. (In these experiments we took no notice of the posterior regions.)

Therefore the nails which fix the shoe cannot immobilize regions which are already immovable; they cannot prevent the motion of the expansion of the posterior regions, if this motion exists, as this question is yet doubtful. We must even acknowledge that if this one existed, it would be favored by the presence of the shoe—as the motion of laterality would be easier upon a flat and smooth surface, as the shoe, than upon the ground.

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It is only in young subjects, when the foot is still developing, that shoeing might produce a stop in the growth of the anterior

regions of the foot. And yet, the formation is only problematic, for, as says Coleman, "the efforts of nature to counterbalance the effects of art are so powerful, that the nails are drawn off by the excentrical motions of the hoof, which widens as it grows down." For us, we have often observed young horses prematurely shod, and we never noticed a manifest stop in the growth of shod feet; after fifteen days of shoeing, the horn projected beyond the external border of the branches of the shoe, sure proof that the implantation of the nails had not interfered in any serious way with the growth of the foot.

If, however, the fixedness of the shoe with the nails was sufficient to produce the contraction of the wall, would not a bar-shoe do it as well and even more than any other? And then throwing aside the hind feet, though in them the nail holes are in many instances close to the heels, would not all anterior shod-feet become hoof-bound in time? Still we meet every day horses shod for ten, fifteen, even twenty years, with excellent feet.

To resume, we will not say, as M. Lafosse did, that in bringing the nail-holes of the shoe as near as possible toward the toe of the front feet, "we favorize the actions of the causes which produce hoof-bound;" but we believe that without fear of error we can state, that when these nail-holes do not go beyond the middle of the quarter of the wall, as is generally the case, their implantation through the wall cannot produce any modification in the form of the foot.

No doubt Bracy Cherk's experiment, so often mentioned, seems to prove different. But it must not be forgotten that his ideas of the physiology of the foot were erroneous, that for him the frog acted as a key-stone, and that his shoeing had for object to relieve it from pressure with the ground. It is not surprising that that mode of shoeing gave rise to alterations in the form of the foot. As practical conclusions we will add that if peculiar shoeing, such as the hinge shoe, the unilateral shoe are injurious, they have no more effect upon the conservation of the form of the foot than the ordinary shoe.

(*To be continued.*)

PLEURO-PNEUMONIA ERYSIPELATODES.

F. S. BILLINGS.

Continued from Page 325.

1. What is the nature of the contagium of this disease?

In a true sense, can we look upon this disease as an inoculable disease, *i. e.* does inoculation produce an artificial disease which renders the inoculated organismus immured against natural infection, and is the course of the artificial disease milder, and does it cause less sacrifice of animal life than the natural?

2. What circumstances exert an unfavorable influence upon the artificial disease, and are we enabled to offer any security against the action of the same?

3. Is the artificial-inoculated disease, if not in the localization, yet in nature, similar to the natural, *i. e.* does it render the organismus in question, immured against further infection from the natural contagion for a period of a variable termination?

4. Is inoculation to be recommended? and when? Does timely inoculation cut short the course of the disease? Does inoculation exert any influence upon a disease already in progress of development, and what influence?

5. Does the artificial disease offer to us any pathognomonic clinical phenomena, which we may look upon with any degree of confidence, so that we can in a grave case, assure ourselves of the sufficient action of the inoculated contagium?

The contagium of pleuro-pneumonia erysipelatodes is, in its nature, fully as unknown as that against other infectio-contagious diseases. We simply know that the same is bound, not only on the gaseous and fluid excrementa of such animals as are the subject of its ravages, but that when surrounding objects become polluted with the same, they *may* become vehicles to its further distribution. Neither chemical or microscopic investigation is capable, however, of demonstrating this fact, so that we can only assume its presence when we can, with a certain degree of safety, assume that the vehicle in question has been in contact with

organisms or their excrement, complicated by the disease in question. The tenacity of this contagium outside of the complicated organism, is very unimportant; within the diseased organism it is so much the greater. Cattle are the only ones among our diseased animals which have any receptivity for this contagium. While the non-transportable contagiums find access to a new organism, as a rule, only by means of actual contact with the dermis, or mucosæ of the nose or digestive tract, the transportable find the atrium, in general, by means of a respiratory surface.

So far as we are enabled to form an opinion on the primary action of the infectious elements in question, it appears as if a nulification of the same first took place at the seat of primary location or in its vicinity, followed by inflammatory processes with great inclination to gangrene. When the elements of infection find their entrance to the organism by the lungs, the processes in question seem to remain limited to the same, while by inoculation, they appear to confine the action to the insulted locality and its circumferences, so that the lungs appear to be entirely exempted from complication, or only disturbed to a very insignificant degree. It is self-evident that it is a question of great importance whether the lungs, or suitable portion of the cutis becomes the disease—atrium. It is as questionable if the infectious elements in question, as well as those of variolæ, find an immediate absorption on inoculation of the same, or if an anticipatory multiplication of the same takes place at the point of inoculation.

Experience can alone determine whether the inoculated disease has a milder course than the natural.

Since the broschure of Dr. Willems, 1852, appeared in Belgium, the inoculation in favor of this disease has acquired a not inconsiderable degree of support and extension. The practice, at first, fell into great discredit with cattle owners from the number of lethal cases which followed, as well as the frequency with which loss of the tail followed from gangrenous processes. Inoculations on the dew-lap proved extremely disadvantageous, so that the extremity of the tail soon became the universally accepted point for inoculation, although not entirely without danger. If

we institute a comparison with reference to the loss from the inoculated disease, and that arising from natural infection, we find that it results quite in favor of the former; further we find the losses gradually diminishing with the perfection of the knowledge and method of inoculation.

In 1853, Dr. Ludersdorff was authorized by the "Konig press, Laude Oeconomie-Collegiums," to gather trustworthy information with reference to the value of inoculation, and reported:

"So far as his observations would allow of an opinion, the evidence gathered stood more in favor of, than against inoculation, and that the much-feared danger of this prophylacticum, bore no relation to the losses which resulted from natural infection, and hence that inoculation was deserving of the most careful experiment."

At the request of the French Agricultural Minister, a commission was formed, and the result published, by Bouley in the *Recueil de Med. Vetr.*, 1854, page 161, from which we take the following: From 9163 animals inoculated in Belgium, of which accurate knowledge was obtained, no visible local reaction followed the inoculation by 1567, while same was evident by 7623; of these 682 lost their tails, 22 suffered from extensive gangrenous disturbances, and 237 died. Of 2181 animals inoculated in France, over which trustworthy information was obtained, 523 demonstrated no local reaction, while the same was apparent by 1658; of these 524 lost their tails, 10 suffered from extensive gangrene, and 57 died.

Of 8643 well authenticated cases of inoculation in Holland, 2119 gave negative results, while positive were obtained by 6024; of these 239 lost their tails, 2 suffered from extensive gangrene, and 73 died.

Of 2861 inoculated in Germany, England, Austria and Italy, about which authentic information was obtained, the Commission report that negative results came to pass by 1294, and positive by 1567 animals; of these 147 lost their tails, 19 suffered from extensive gangrene, and 101 died.

Belgium by about 16%, France 25%, Holland 25%, and in other lands 48%.

The tail was lost in Belgium by about 7.4—8.95%; France, 24—31.6%; Holland, 2.76—3.96%; other lands, 5.14—9.37%.

Extensive gangrenous disturbances appeared in Belgium by 0.24—0.29%; France, 0.46—0.6%; Holland, 0.02—0.03%; other lands, 0.67—1.21%.

Died in Belgium, 2.58%—3.1%; France, 2.61%—3.44%; Holland, 0.85—1.20%; other lands, 3.53—6.45%.

As an average from the above 22,348 cases of inoculation, we find that local phenomena at point of inoculation failed by 5476 animals, 24½%; and the inoculation gave positive results by 75½%.

Fifteen hundred and eighty-two of the inoculated animals lost their tails, 7.08%; 53 suffered from extensive gangrene, 0.24%, and 490 animals died, 2.19%.

Let us assume that the total loss following inoculation be 4%, and compare the same with the losses resulting from the natural disease. It is impossible to arrive at any exact percentage of the losses from the natural disease, the reports varying from 10—75%; this great variation is dependent on the manner and frequency in which the disease has appeared in different localities and at different times.

Let us assume, with Rall, that about 30% die. To this we must add those animals which are slaughtered as unhealable, or from secondary disturbances, the loss from milk, and waste of flesh, treatment, etc. Rall gives this loss as 60%, and remarks that the same is not exaggerated. If we assume that 40% of the animals exposed to infection became manifestly diseased, we may assume the loss from the natural disease to be then about 24%.

The opponents of inoculation may object that frequently much less than 40% of the animals exposed to infection became diseased; to this it may be said, that frequently, many more became diseased. According to a French Commission, from every 100 head of cattle exposed to infection, 30% became subjects of the disease. I must assert that by inoculations performed "lege artis," it is only very exceptionally that so great a loss as 4% will result.

The extent of the loss following inoculation is in a great

measure dependent upon the nature of the lymph which is used, as also upon the point selected for inoculation, and the following treatment.

We cannot form any judgment over the quality of the lymph without an accurate knowledge of the abduction's results, as well as the intra-vital condition of the organism from which the same has been obtained; further, it is necessary to know that some has been obtained and preserved with all the circumspection necessary to its purity, as it is self-evident that the fluid in question, in which the infectious elements are embodied, may, by failure in such circumspection, become, by decomposition or inclosure of noxious elements, the cause of most serious and unexpected complications, or the activity of the infective elements become lost. There is no doubt that in the above-mentioned facts is to be sought the true course of most of the negative results, and serious complications which have been charged to inoculation.

It is *absolutely necessary* that the elements to inoculation be obtained from an organism otherwise healthy, *i. e.* upon which no other complications than those of pleuro-pneumonia are present, *and the same must also be in the pure mild form*, so that in the lung in question neither purulent masses, ichor, or other deleterious elements can find admittance with the lymph. All experienced inoculators are well acquainted with, and frequently complain of the difficulties they meet with in their endeavors to obtain pure lymph, and they also know that only those who give every attention to the above peremptory requisites receive favorable results from their inoculations.

As at present we have no means of demonstrating, either chemically or microscopically, the presence of the infectious elements in a given lymph, so are we also unable to ascertain its degree of dispersion in the same. When hereto we take into account the individuality of each organism, the possibility of different external influences, as the pollution of inoculation's wound with dirt, we find an explanation for the varying results which often follow inoculations upon different individuals by one and the same lymph. Alas, against these things we are in a great measure at present impotent.

Above all things, however, *we can* exercise due circumspection in obtaining the lymph; one should ever remember "The wind soweth but the storm reapeth," *i. e.* those who inoculate with the lymph concomitantly ichorous elements, must expect gangrenous processes to follow on different parts of the body, especially the posterior parts, and which even with the best treatment, generally either terminate lethally or result in the animal in question losing the tail; hence lungs which offer the least appearance of suspicion must be carefully avoided as objects from which to obtain lymph. The same is best obtained from the interstitial connective tissue of the lungs, and from animals by which the disease is present in its early stages, and which are absolutely free from other complications. One wins the lymph by allowing the same to flow from the cut surface into a vessel conveniently placed to receive it; such fluid should be placed in a well corked bottle for twenty-four hours, and then carefully filtered and placed in a thoroughly close bottle under water and in the dark until wanted for inoculation. All experienced inoculators are united in expressing the impossibility which has met their endeavors to retain such lymph pure and active for any length of time, and this fact offers one of the great obstructions to the extension of inoculation in reference to this disease. Of late Goeroldt has recommended placing a piece of chloral-hydrat, of the size of a pin's head over or on the surface of every fifty grammes of filtered lymph, the fluid to be then placed in a perfectly clean and disinfected bottle (scalded out —B.) the same to be carefully sealed and placed under water in a cool dark place. While I have not tested this manner of treating the lymph (Putz), yet the same recommends itself to us, especially as I know Goeroldt as a trustworthy man.

The great importance of the necessity of great circumspection in obtaining, preparing and conserving lymph for inoculation, should be self-evident to every one who desires to reduce the losses resulting from the same, to the lowest possible degree. At the same time we must in no measure neglect to exercise a like degree of circumspection in the treatment and care of the inoculated animals, as well as any conditions which may present themselves during the action of inoculated disease. Of great

dietetic importance is a full supply of *pure* fresh air, cleanliness and a stable temperature of 10—12° C.

Inoculations in the dew-lap must be absolutely forbidden, as the loss from the same has been found to rise to from 5—8%. By exact following of the conditions which we have above discussed, the losses from inoculation should scarcely reach 2%, and this small percentage should be still more reduced by a trustworthy preparation, and preservation methodic in reference to the lymph. In reference to the inoculations-methodic, the lymph may be introduced by means of a lancette, or a bistoury, which, however, requires care and practice; much more suitable, however, is the inoculation-needle of Stricker, when one has a number of animals to operate upon. (A cub-cent. hypodermic syringe is the best instrument of all, not only as regards convenience, but cleanliness; the instrument here recommended (Stricker's) is in my opinion quite the contrary to what the worthy author says of it, at least some experience in inoculatory experiments of this and other kinds, where we are not limited to the smallest possible amount of material, leads me to recommend the syringe as the best and most convenient method—B.)

In regard to the "Impf-technik" (inoculation methodic) we find some very appropriate remarks by Roboüam in No. 7, "de Archives Vétérinaires" 1878:

"The inoculation by pleuro-pneumonia erysipelatodes is a most excellent regulation, when the lymph has been properly gathered and prepared, and the action of the inoculation is carefully watched for 28 to 30 days, especially in summer."

R. slaughters an animal complicated with this disease and takes the fluid from a freshly infiltrated portion of the lung, or some parts in the first stages of hepatization; he cuts the parts in question in different directions, and presses the same carefully out over a suitable vessel; in cooling, the fluid coagulates and is again pressed through linen, the lymph produced being carefully enclosed and set away when not destined for immediate use. Lymph taken from the dark colored portions of the lungs gives occasion to gangrene much more frequently than that which is taken in the above manner.

Before operation, R. carefully cuts the hair away from the end of the tail, and then makes three sections in the skin from 15 to 16 mm. long, which are afterward carefully washed by an assistant; after operating in this manner upon all the animals destined to inoculation, R. introduces the lymph by means of a lancette (from a cup containing the same held by an assistant) into the skin-sections, following which the tail is held by an assistant in an elevated position for a few moments to allow the lymph time to penetrate. The views of experienced persons differ very essentially over the "ens" of the inoculated disease.

Some opponents of inoculation have asserted that like results would follow the inoculation of indifferent fluids, such as milk; such assertions are entirely groundless and without every scientific justification. That the introduction of foreign elements in the subcutis of the tail or other parts may often lead to inflammatory phenomena at the insulted point, no one denies; the mere section of the same, with neglect of the wound, would lead to like results, but such do not constitute the "ens" of the inoculated disease. The same is only to be expected when a pure specific lymph has been introduced into the subcutis in a sufficient quantity. It is self-evident that inoculations with a lymph which a few days previously was mild and active, may be followed by very unwished for complications if the same has been the seat of decomposition in the meantime. In such cases it is very questionable if the local reaction is capable of offering any protection against natural infection; this could only result when the specific elements of the lymph had suffered no disturbance from the processes of decomposition. I again repeat that *local reaction* must not necessarily be looked upon as a sign of sufficient, *i. e.* protective action of the lymph, as the same can be produced as said, by an irritant, giving access to the parts in question in quantity sufficient.

If, however, we look upon the essentiality of the inoculated disease, as a penetration of the tissues of the inoculated organism with the specific elements of the disease, and not as mere local inflammatory phenomena then the latter become for us things of secondary importance. As we can well see that inoculation with a lymph containing elements of decomposition should be followed

by inflammatory phenomena, at the point of inoculation, without giving to the organism any protection against natural infection, so may also see good reasons for supposing that a genuine inoculated disease may produce immunity against natural infection without the presence of any striking local phenomena at point of inoculation. If a proliferation of the specific elements at point of inoculation is an absolute necessity, it is very questionable. Chauvau has well shown that, in reference to variola, the local phenomena may fail and yet the organism be protected against natural infection for a variable length of time.

Hence the "ens" of the inoculated variola, as well as of the disease in question, must be sought in quite different phenomena than local reaction at point of inoculation. As we are at present completely in the dark with reference to the essentiality of the natural disease, it is self-evident we cannot expect any more knowledge with reference to the artificial; so much is certain, that it cannot essentially differ from the natural disease, as both diseases owe their existence to the specific, yet unknown infectious, elements of pleuro-pneumonia erysipelatodes.

As we must assume that the natural and the artificial disease are essentially similar, and as we know that organisms which have resisted the ravages of the natural disease lose their receptivity for the infectious elements, if exposed to the same, for the remainder of their lives as a rule, we cannot see why the same result should not follow by animals which have surely passed through the artificial disease. This assumption is at least justinable until the contrary is proved to be the case. We do not mean to infer that an immunity against natural infection will follow every case of artificial disease during the life of the questionable organism. Many cases are on record where animals have became the subjects of the natural disease in a year or less, where the inoculation had given every phenomena of positive affection. Such cases, however, form the exception where the inoculation is performed lege artis, and there is no rule without exceptions. The experiments of Willems and others demonstrate clearly enough the specific action of the elements of this disease upon cattle, while negative results invariably followed inoculation with the same upon dogs,

sheep, goats, swine, rabbits and fowls. Although at present the greater number of professionals and educated cattle owners place confidence in the prophylactic power of inoculation by pleuro-pneumonia, yet it is not right to say that the same is as yet accepted universally; to this end it is necessary that all interested persons and professionals work exactly and methodically in this very profitable path, and one of so much national economical interest.

DISEASES EXISTING IN HORSES WITHOUT MANIFEST SYMPTOMS.

By ROBT. WOOD, V.S., Lowell, Mass.

Autopsies, made after sudden death, or after illness of short duration, often reveal latent disease in every tissue of the body, many times in the most vital organs, the character and magnitude of which often astonish the practitioner, that such morbid changes in the various organs could possibly exist, and the animal perform daily labor without the first manifest symptom of its existence to those around him and using him daily; and yet such is the fact, well known to those who have had years of practice and who make autopsies. I do not offer this to those practitioners just mentioned, but for the benefit of our younger Vets., who have not had the opportunity of seeing such cases, at least not many, with the hope of appreciation. As an illustration I will relate a few cases in my own practice:

Case 1.—Bay horse, eight years old, was taken with influenza, with several others in the same stable, showing the same symptoms, and receiving about the same treatment. I being confined to the house at this time by sickness, my son attended him. On the fourth day he informed me that three of the cases were convalescent, but the fourth one did not improve, appeared quite weak, and refused to eat. The owner sent a hack for me, and requested

my presence. Accordingly I rode to the stable. For my safety and convenience the horse was led into the office. His first appearance did not indicate great sickness, pulse 42, respiration 16, temperature of extremities about natural, color of membranes also; no evidence of pain. By auscultation I could not detect any unnatural sound in the chest. I ordered the horse led to my infirmary, half a mile off, so that I could watch him closely. After receiving treatment there he lay down, and remained quite comfortable for several hours. This was on Tuesday. Very little medicine was given him; simply had good nursing, and until the Friday night following appeared slowly improving, his appetite middling. On visiting him in his box stall, before I retired for the night, I found him eating his bedding (clean straw), and saw nothing to prevent his recovery. On the following morning found him dead, having apparently died without a struggle. An autopsy revealed tuberculosis of both liver and spleen, the liver weighing thirty-three pounds, and the spleen twenty-eight pounds. No evidence of disease in any other part of the organism. This horse was used in a livery stable for a year previous, and was always in good flesh, and considered able to work hard until about a week previous to death.

Case 2.—A large gray horse, belonging to a manufacturing company, owned by them for several years, and kept for driving and use in a cart about the yard. My attention was called to him on Monday; found what is commonly called a case of "staggers." On making inquiry I learned the horse was taken ill on the Saturday previous, that he had been bled and physiced by a man who had been many years in the army in Canada, but who was at this time an employee on this corporation, and said he had had experience among the army horses. The horse, while we were looking at him, had a severe paroxysm of the disease, and used great force to make his way through a bale of wool, which had been placed in front of him to prevent him injuring his head, and while doing so voided his urine, in quantity about half a pint, which stood upon the floor nearly half an inch thick, resembling glue in color and consistency, and containing a large proportion of albumen. Gave a laxative ball and two drachms of extract of

belladonna and suggested bathing the head with cold water frequently. On the following morning again visited my patient (four miles from Lowell), was informed that within one hour after giving the ball he became quiet, and had remained so up to this time, and was considered by those in charge of him much better. The person who had treated him at first said, "I have seen plenty of such cases, and will, if you will give him another of those balls, warrant him to get well." On examination I found him nearly pulseless, an occasional sighing respiration, membranes blanched, extremities cold, and our friend was much surprised when I refused to give any medicine, and declared my prognosis "that the animal would not live through the day," and that the symptoms indicated chronic disease of some other organ than the stomach, and that it was, judging from the character of the urine seen the day before, of the kidneys. At noon the superintendent came for me in haste, saying that the horse had fallen and was struggling violently. On my arrival I found my patient in violent paroxysms, and suggested immediate destruction, to which the parties consented. Accordingly an axe was used, and an autopsy made in the presence of Dr. Edwards, the physician of the village, and the kidneys proved the seat of disease and the cause of symptoms presented. They were very large, weighing seven pounds and a few ounces, and in a softened and disintegrated condition, Dr. Edwards remarking that they strongly resembled human kidneys in the last stages of "Bright's disease." All the other organs in the body were ordinarily healthy, and our opinion was that the symptoms were produced by "*absorption of the abnormal secretion of the kidneys*" (Mr. Editor will please give his opinion upon this, our position).* This horse had always been in good condition apparently, up to the Saturday previous, and he only lived three days after the first attack, yet without doubt the kidneys had been diseased a long time.

* We do not exactly understand the meaning that our correspondent gives to these words. If it is intended to say that the symptoms were due to uræmic poisoning of the blood, we would agree with him; but if any other meaning is attached to the sentence, we would ask a more definite explanation before giving our opinion.—EDITOR.

Case 3.—Bay mare, owned in this city, about ten years old, taken with symptoms of colic. The family physician, who lives near by, being consulted, prescribed "tincture opii" in large doses. Six hours after, the symptoms not being relieved, I was sent for. I found the animal standing and somewhat comatose, also very weak. My first impression was that she was dangerously under the influence of opium. Her pulse quick but very feeble, membranes highly injected and of a dark color, respiration slow, long inspiration, short expiration, looking around as though anxious to lie down, but dare not. My diagnosis was chronic disease of some internal organ, yet I could not say definitely the seat of disease, believing the symptoms had been changed by the remedy. My prognosis, death in a few hours. This mare died about midnight. On the following morning made an autopsy in presence of the physician, Dr. Jenness, and found the seat of disease to be the kidneys. On removing them we found them weighing eight pounds, showing fatty degeneration, and they, as well as the surrounding tissues, were highly congested, giving evidence of acute disease supervening on chronic disease, which must have existed sometime. This mare had been used daily in a rather heavy wagon, carrying out about the city merchandise in the shape of butter, eggs, vegetables, etc., and had worked well up to the time, as above stated.

EDITORIAL.

VETERINARY SANITARIANS.

In our last issue we endeavored to set forth the necessities demanding the formation of a veterinary department in connection with the proposed National Health Bureau in Washington, and while we believe most members of the profession desire to see this end accomplished, and will lend their aid in its attainment, there is another important matter, to which we, at the same time, should turn our attention, and that is to the appointment of regular veterinarians on local, city and State Boards of Health.

In the cities of New York, Boston, Brooklyn, and perhaps some others, veterinarians have been added to the Health Boards; but the position has been only an honorary one; the services of the consulting surgeon being rarely called in requisition.

In so far as we know, out of the few States which have established State Boards of Health, the State of New Jersey is the only one in which a consulting veterinarian is appointed, and that honorary position is filled by our esteemed friend, Dr. James Corlies.

There is not a State in the Union, which could not, with advantage to itself, follow the example set by our sister State; for the services of the skilled veterinarian, in conjunction with the State Board, would be of untold value in the preservation of human health, and the protection of live-stock interests.

In all parts of our country, enzootic and epizootic diseases, at irregular periods, make their appearances; as note the continued frequent outbreaks of contagious pleura-pneumonia in New York and New Jersey; the recent enzooty of parasitic bronchitis near Morristown, New Jersey, and the constant ravages of the so-called "hog cholera" throughout the great breeding districts of the West.

The great losses which these, and other diseases, have occasioned our live-stock breeders, has brought the question of remedying the evil fully before the public mind, and in the light of veterinary science we hold that it is not only our *right*, but that the public health, and individual prosperity and wealth, *demands* the presence of the veterinarian in all Health Boards; not as an unpaid official, but with a remuneration proportionate to the services rendered.

We find in all European countries, especially those divided into numerous districts, where veterinary surgeons exist in sufficient numbers, that each district has a special veterinary board, working under the supervision of one general board; the same condition of affairs could and should exist in all our States, for veterinarians of education and eminent scientific attainments are rapidly increasing in every part of our land, and the public cannot afford to longer ignore their services in so important a matter.

Let every city then have its Board of Health constituted with an able, veterinarian, responsible to the supervision of the State Board, which in time. shall be controlled by the National Sanitary Bureau; then, and then only, can veterinary science give to the public the protection which the preventive measures of thoroughly applied, known sanitary laws always guarantee.

VETERINARY AND HUMAN MEDICINE.

Some time ago we published an article, in one of our contemporaries, in which we endeavored to set forth the advantages that would accrue, not only to the public, but to veterinary and human medicine as well, if many members and contemplating students of human medicine, would devote their attention to the study of the veterinary specialty.

In a subsequent number of the same journal, appeared a reply to our article, calling us to the bar of the medical fraternity, for the asserted audacity of making a proposition, which our respondent elected to treat as an intentional insult.

The matter rested there, and "E.H.R.O.B.E.L.C.," no doubt felt, in presence of the silence following his answer, that he was probably about the only one in his profession who entertained opinions kindred to those he had so facetiously expressed, while we felt sure that the great majority of physicians believed with us, that the medical ranks were over-crowded, and veterinary medicine offered both an honorable and lucrative field of escape from the impending dilemma.

In this issue of the *Review* we make room for the letters above referred to, and also a report of the proceedings of a Medical Society in Maryland, wherein our views are supported by able and respectable practitioners of human medicine, who look upon veterinary surgery in its proper scientific light.

It is particularly gratifying to us to find medical men awaking to the advantages which our profession presents, for it promises us a much needed assistance in speedily reaching the high eminence in public estimation, which the importance of our specialty demands.

This report from the "Harford County Medical Association," is probably the first of that tenor, but it is to be hoped other associations will follow the lead so boldly taken, and that eventually the American Medical Association will lend its great aid in making veterinary medicine in the United States, what it is in many European countries, *second to none.*

VETERINARY INSPECTORS.

The recent inquiry, instituted by the English government, relative to the veterinary sanitary regulations of this country, has influenced our Secretary of State to issue a circular to the Collectors of our several ports, authorizing them to "cause an inspection to be made of all cattle exported to Great Britain." The duties devolving upon such an officer can only be performed efficiently by the skilled veterinarian, and the appointment of inspectors from any other source will be simply a subversion of public health and trade to personal interests.

Neither do we believe our English friends would be satisfied with the certificate issued by inspectors appointed outside the ranks of the veterinary profession, for they would not be worth the paper upon which they were written.

Then let us anxiously watch all these appointments, and see whether they are made in the interest of the public good, or given to those feeders at the public crib who can control the greatest amount of perverted political influence.

NOTICE.

Believing that an incorporated State Veterinary Society could obtain readily from the Legislature, full recognition and protection against quackery, we would feel greatly obliged to any of our readers who will send in the names and addresses of regular graduates from any part of this State, in that we may communicate with them upon the subject.

VETERINARY COLLEGES.

From the German "Veterinaer Kalender" for 1879, *Vienna.*

TRANSLATED BY J. GERTH, STUDENT.

AMERICA.

New York. (The American Veterinary College.) Faculty: Dean of the Faculty, Prof. Dr. Liautard; Professors: Dr. A. Large, Dr. A. W. Stein, Dr. J. L. Robertson, Dr. S. R. Percy; Adjunct Professors: Dr. A. A. Holcombe, Dr. F. A. Lyons; Lecturer on Histology: Dr. M. N. Miller; Demonstrator of Anatomy: Dr. J. W. Coates; Prosector of Anatomy: Dr. A. H. Rose; Curator of the Museum; R. N. McLean.

The college was organized in 1875, and it is the first Veterinary Institute in the United States promising to be successful. The faculty is the same that constituted the "New York College of Veterinary Surgeons" for ten years. (Closed lately). The college follows in its course of instruction, the European system, especially that adopted by the French schools. This is principally to be ascribed to its present and deserving Director, Dr. A. Liautard. *To be admitted* into this most creditable and eminent Veterinary College of the United States, a good academical or a strict matriculatory examination is required. *The course of instruction lasts three years*, and it endeavors to give the students a thorough theoretical and practical education. It comprises the fundamental medical sciences, and the special branches of veterinary medicine. About 400 lectures and clinics, on comparative and veterinary anatomy, physiology, chemistry, theory and practice of veterinary medicine, surgery, obstetrics, materia medica and therapeutics, jurisprudence, sanitary medicine, external forms of the horse, art of shoeing and pharmacy, are delivered during a regular Winter session of five months, and a Spring session immediately following. The students are obliged to pass an examination at the end of every year. The museum contains the largest and best collection on the American continent, consisting

of nearly 2,500 morbid and healthy specimens. These specimens are used to illustrate the lectures, and serve the student in his private studies. With the exception of this institute, there is, strictly speaking, no other regularly organized college in the country. In America veterinary medicine has not entirely laid aside its leading-strings (infancy) yet. Several State "Associations" exist in the country, but they claim little importance. Still the *United States Veterinary Medical Association* deserves to be mentioned, of which, the majority of regular graduates in the United States are members.

BELGIUM.

Cureghem. (Veterinary College). Faculty: Director: A. Thiernesse: Professors: Melsens, Gerard, Gille, Wehenkee, Degire, Laho, Longe, Dessart; Repetitors: Courtoy, Reul, Dupuis, Gratia.

DENMARK.

Copenhagen. (Royal Veterinary College and Agricultural High School). Faculty: Director: Dr. H. Crabbe; Professors: H. G. Bendz, S. H. O. Bagge, H. V. Stockfleth, V. Prosch, C. T. Barford, J. Lange, J. G. Schiodte; Docents: N. J. Fjord, H. T. V. Bay, E. Becker; Apothocarist, Rasmussen.

This institute was founded in 1773, is well provided with stables, and with a good museum. The course of study is ended after five sessions, and generally lasts three to three and a-half years. In the year of 1876–77, 1,016 horses and 460 dogs were treated at the college clinic, and 1,950 horses, 843 cattle, 621 dogs and 264 swine at the ambulatory clinic. The Kingdom has a Veterinary Board of Health formed of seven members. The country is well provided with veterinarians.

GERMANY.

Berlin. (Royal Veterinary Institute). Faculty: Director Prof. Dr. Roloff; Professors: C. F. Mueller, Dr. J. W. Schnetz, Dr. Munk, Dr. Moeller, Diekerhoff, Dr. Pinner, Eggeling; Repetitors: Ellenberger, Wolff.

Dresden. (Royal Veterinary Institute). Faculty: Director: Dr. Gottlieb Haubner; Professors: Dr. G. A. Leisering, Dr. O.

Siedamgrotzky, Dr. Hofmeister, Jul. Susdorf, Dr. J. G. Huebner; Docent: Dr. Albert Johnr; Assistants: Wilhelm, Rost; Teacher of Shoeing: Clemens Neuschild.

Giessen. (Veterinary Medical Department of the University.) Faculty: Director: Prof. Dr. Pflug; Repetitor: Dr. Winkler.

The veterinary medical department in Giessen is consolidated with the medical faculty of the grand-ducal Hessian Ludwigs University; it is under the direction of Dr. Pflug, and has its own hospital, anatomy and museum. The veterinary students attend lectures by the University Professors, Dr. Schneider, Dr. Hoffmann, Dr. Will, Dr. Buff, Dr. Eckhardt, Dr. Thaer, Dr. Buchheim, Dr. Perls. The approbation given to veterinarians in Giessen is rendered valid throughout entire Germany. The course of study comprises seven sessions, and examination takes place in the eighth. To be admitted, a good academical previous education is required (Prinia einer Realschule I. Ord. oder Realgymnasiums). The previous education is not demanded from foreigners.

Hanover. (Royal Veterinary Institute.) Faculty: Director: Prof. Guenther; Professors: C. Begeman, Dr. Dammann, Dr. Harms, Dr. Lustig, Dr. Rabe; Teacher of Shoeing: Dr. Bruecher; Repititor: Dr. Eichbaum; Assistant: Ernst. The lectures on chemistry, zoology and botany are attended at the Polytechnicum. Physics are lectured by a special teacher, Dr. Ehrlenholz. To be admitted, a good previous education is required.

Munich. (Royal Central Veterinary Institute.) Faculty: Director: Prof. Frank; Professors: Hahn, Feser, Friedberger, Dr. Bollinger, Dr. Forster; Docent: Dr. Harz; Prosector: Dr. Bonnet; Assistants: Kohlhepp, Beskert.

Stuttgart. (Royal Veterinary Institute.) Faculty: Director: Prof. Wilhelm Fricker; Professors: Dr. Eduard Vogel, Dr. Schmidt, Roeckel, Dr. Jaeger; Docents: Dr. Ahles, Sussdorf; Agricult. Inspector: Saur; Teacher of Shoeing: Mayer.

ENGLAND.

London. (Royal Veterinary College.) Faculty: Director: J. B. Simmonds; Professors: W. Pritchard, R. V. Tuson, G. T. Brown, T. S. Cobbold, F. W. Axe; Demonstrators: Jno. H. Steel, D. M. Storrar.

FRANCE.

Alfort. (Veterinary College.)

Lyons. (Veterinary College.) Faculty: Director: Prof. Chauveau; Professors: Rey, Saint-Cyr, Arloing, Peteaux, Cornevin; Chefs de Services: Peuch, Galtier, Durhone.

Toulouse. (Veterinary College.)

HOLLAND.

Utrecht. (Royal Veterinary College.) Faculty: Director: A. W. H. Wuertz; Professors: Fr. C. Hekmeyer, J. K. E. van Laer, G. J. Hengeveld, L. J. van der Harst, F. Th. Weitzel, W. C. Schimmel, C. A. Pekelharing; Prosector: A. Th. Verhaar; Teacher of Shoeing: W. A. H. van Harsen; Assistant Chemist: J. C. van Effen.

This college was founded in September, 1819, and opened on the 10th of December, 1821, in consequence of an edict by King William I. Sixty-one students matriculated for the session of 1878-79, among whom 24 are studying in their first, 12 in their second, 15 in their third, and 10 in their fourth year. Nine of these are military students.

(*To be continued.*)

CORRESPONDENCE.

"IMMOBILITE" DUMMKALLER (GERMAN) "AMENTIA" (TECH).

By F. S. BILLINGS, Berlin.

"Immobilite is a term applied by French veterinarians to those causes of muscular irregularity manifested by the inability of the horse to turn round quickly without falling; he may be able to trot in a straight line well enough, but when turned round sharply immediately falls. A modified form of this disease is very often encountered when the animal, although able to turn without falling, does so with great difficulty, throwing the hind legs about in an awkward, unsteady manner, and seemingly without power to regulate their movements, the hind quarters reeling from side to side, clearly showing that the mus-

cular movements are improperly controlled by the power of volition. This is commonly called broken, strained, or jinked back by horsemen. It is not due to any fracture, nor always to any external injury, but is a progressive disease, arising from some alteration of structure in the spinal cord from diseases of the vertebræ, or from granular degenerative diseases of the muscles themselves."—Williams' Principles and Practices of Veterinary Surgery, 2d Ed., Edinburg, 1875, p. 247.

Whether the above is also to be found in the first edition of the *only text book* we have in the English language or not, I do not know, but sufficient to say, it has been before the English public and veterinary profession from 1875 to 1878, and notwithstanding a long-continued, and in some instances bare-faced, plagiarism of French veterinary literature, yet during all this time this most serious error has remained unnoticed and uncorrected, so far as my own knowledge goes. I say *serious error*, for, with all respect for Mr. Williams' earnestness and worthy endeavor, the above statement from his work is in nearly every respect absolutely false, if an attempt to apply it to the condition which "French veterinarians designate as immobilite."

The oldest French work which any present library offers me, is the noted "Cours d'Hippiatrique," par M. Lafosse, fils. Paris, 1772. The noted opponent of Bourgelat, and to my mind his great superior, tells us that up to this time no veterinary author, "auteur hippiatrique," had made mention of this disease—conditioro—although the same was well known to horsemen and dealers, and classed with them among the conditions belonging to the class "cas rehibitores" of forensic diseases. As phenomena, he tells us the animals are very loth to mind, that they remain in the place where one places them, that if suddenly stopped with limbs in an abnormal position, they do not move from the same with any alacrity, that they eat slowly and irregularly, that the head is frequently held for a long time motionless, etc., and that the malady bears some resemblance to that which mediciners describe under the cognomen of catalepsie. As causes he mentions fear, also that the condition may come to pass after a long sickness, also poorly developed and formed animals are predisposed thereto. He considered the condition as incurable, an opinion which still continues and will probably to eternity.

As known, this great work of Lafosse continued to be the spring from which much of the veterinary literature for the fifty years succeeding him drew its nourishment, so that we can safely pass over all the literature between his time and our own, and turn to books which every veterinarian should have in his library. And as we have many Germans among us, I will first quote a few words from the French translation of Prof. Roil's "Manuel der Pathologie der Hausthiene," 3d Ed., by Dereche el Wehenkel, Paris, Bruxelles, 1869, Vol. 2, p. 36; 4th German Edition, Vol. 2, 37:

"On donne a nom a une maladie apyretique a marche le plus souvent chronic, se presentant dans l'espece chevaline et se manifestant par des troubles de la conscience des sens et des movements."

"Die Dummkaller ist eine chronische, fieberlose bis jetzt noch als anheilbar zu bezeichneude GEHIRN KRANKHEIT des Pferdes die sich durch Storungen der sensoriel Functionen in den verschiedensten Graden kured giebt und immer an dem gesammten symptomcomplex und dem chronischen Verlaufe zugleich zu erkennen ist." Gerlach, Haudbuch d. Gerictlichen Thierheil Kunde, Berlin, 1872.

Farther, those who desire to pursue the investigation deeper may refer to "Le Dictionnaire de Med. et de Chirurg., etc., Veterinaire," per Zundel, vol. 2, p. 260; "Le Dictionnaire de Med. et de Chirurg., etc., Veterinaire," per M. M. Bouley, Reynal et al, Tome 10, Paris, 1874, Article "Immobilite;" to the works of Haubner, Spinola, Fuchs, Kreuzer, and every modern continental writer of repute.

The ætiology of the disease is to be sought in an accumulation of fluid in the laterial and other ventricles of the brain, in consequence of anticipatory inflammatory processes, thrombosis, etc. (This fact was first discovered by Wolstein, 1738–1802, the most noted German veterinarian of his day, student of Lafosse, and the real founder of the Royal Veterinary Institute of Vienna, although a beginning had previously been made by Scotti). This fluid does not produce the peculiar phenomena by compression of the brain substance, as assumed by most authors, but the phenomena and their peculiar progressive development are due to the gradual atrophy

of the functional and conductive substances of the brain from the pressure exerted by the fluid upon it. Compression of the brain, as spoken of by authors, is impossible, the brain and its appendices filling the entire cavity; only by atrophy of its substance can it become smaller. The phenomena of the disease have been quite well indicated by Lafosse, and consist chiefly in sensorial disturbances; the horse is more or less, or even completely, inattentive to the commands given it, the ears move in an automatical manner, having no connection with the direction of the eyes; the latter are more or less expressionless; the animal frequently stands for hours with head in a corner of stall; if given food eats irregularly, frequently holding it between the teeth for minutes with no endeavor at mastication; prefers food from the stall floor, rather than from manger or rack; pays but little attention to the whip; is frequently almost devoid of feeling if the crowns of the feet are trod upon, even with all one's weight; this is generally much more prominent by the anterior than the posterior extremities; if the limbs are placed in abnormal positions, especially crossing the anterior ones, or crossing the fetlock of one over the metacarpus of another, the animal frequently allows it to remain until it falls to the earth by its own weight as it were; pulse and heart retarded, arterial pulsation slow, but full, yet not strong, peristaltic retarded, appetite more or less interfered with; in some cases such horses, when offered drink, plunge the nose at once deep into the bucket, as if blind. It must be emphasized that in all this no fever is apparent, and as Gerlach says, and as is necessary in all forensic cases, these phenomena—complex—must be more or less manifest and have been apparent for a certain period of time regulated by law from the date of purchase and without fever or other acute diseases during that time to constitute a case. This period is fixed in Prussia at twenty-eight days; Hamburgh, four; France, Elsass, and Lothringen, nine; Belgium, fourteen; Saxony, fifteen; Switzerland, twenty; Baden, Bavaria, Hesse, Frankfort-on-the-Main, Hohenzollern, and Wurtenburg, twenty-one; Austria, thirty days from date of sale.

In speaking of the ætiology of this condition we have only alluded to the same, not having time to go into this matter speci

fically. We have said that the primary cause was atrophy of encephalic substance from pressure of a fluid in the ventricles of the brain. The same *may be* caused from osseous or other tumors within the osseous walls, but this is very seldom. I believe Zurn, of Leipzig, has constituted *one* such case. In one sentence, leptomeningitis, with extension to the choroid plexûs within the ventricles, may be looked upon as the chief cause, with subsequent exudation of fluid. The normal amount of fluid found in the lateral ventricles seldom comes to 10 grammes in each. All amounts over that may be looked upon as abnormal. The amount of fluid may increase to 30-45 grammes, which is an excessive amount. From the above it will be apparent that we have not before us a condition characterized by paralytic or stumbling movements of the posterior extremities, or a condition due in any way to "a progressive disease arising from some alteration of the structure of the spinal cord from diseases of the vertebræ, or to granular degeneration of the muscular substance," or with a disease the treatment or description of which belongs in a work on veterinary surgery.

As said by Lafosse, treatment is useless. It is self-evident that the condition in question is well enough known to our English veterinarians, but has never been separated from meningo-encephalitis, to which, especially the former, it is the most frequent conclusion. The cause of this is, in my opinion, to be found in the very infantile development of forensic veterinary medicine by us, and all matters pertaining to the same, whether belonging to veterinary police or the forum of laws. We have work before us, my American colleagues. Work and study, and study and work, before we can place ourselves on a level with our European brothers, and only by one well organized national institute can we succeed. As a matter of historic interest I place an appendix hereto, a very short resumé from a once celebrated work, "Hippiater Expertus," by Georgii Simonis Winteri, Norimbergæ, 1678, page 22, where this disease, or better, its precusor, is treated in a very drastic manner under the heading "De Furore Melancholico et maniaco quo equus obstupescit et subinde titubat." It attributes the disease, or rather phenomena, to an unnatural accumulation of

the "sanguinis melancholici" between the skin and musculature, and "ex atra bili orti," also in the spleen, "inque liene residentis;" the first causing a feeling of external pressure to the animal in question, as well as disturbing the ascent of the spirit-psyche to the head, etc. He also speaks of the inheritability of the melancholic disposition and of the influences which, it is said, are exerted upon such organisms by bad treatment and *the presence of Jews.* Just how the latter irritant worked, the learned author fails to tell us.

CUTTING CRITIC.

MR EDITOR.

What a case! That cutting case, which is reported in the December number of the REVIEW. Are the Americans to be blamed for not recognizing the veterinary profession, when such men are allowed to call themselves veterinarians, and practice veterinary medicine and surgery in such great cities of the United States? If it had been about five years ago, I would say, no; but now, as the educated veterinarians are on an equal footing with the human physicians and surgeons, I will say, yes; because the science of veterinary medicine and surgery has been brought before them time and time again, in the veterinary journals, agricultural and sporting papers, both of this and other countries, also by the energies of every individual connected in any way with the profession.

Now, Americans, are you asleep, or dreaming with your eyes wide open, looking at such empiricism and quackery going on in such a manner as this? Wake up and see, that there is not a "stoppage from some cause," which you cannot make out, but diagnosticate the trouble from the symptoms and history so plainly brought before you, and your treatment will be very simple. You must not go it blind any more, but take up your journals and papers and study the present condition of the country in regard to veterinary science, and then you will see there is at least one way for the start. Go to the Legislature and have a bill passed, that no person can practice veterinary medicine or surgery, unless he is a graduate of some recognized school, or

licentiate from a board of examiners, and that will be a "cathartic ball" a little over "six in strength," which will purge the indigestible, unscientific, and parasitic empirics out of this great country of yours, and let them decay so as never to be brought in existence again under the same form. You ought not *"to blote"* the country with this empiricism, but clean it out, and make them turn up the "whites of their eyes as if scared," and leave "them lie down spread out" to paw no more, and probably the "membranes of their eyelids" will be paler and the *brisket* open to leave more "blood from this cutting."

Veterinarians, physicians, surgeons, and laity, go to the Legislature, and see that this "band uniting the colon" of this country shall be kept in place by the educated veterinarians, and have a post mortem examination of this empiricism and quackery, and see that the "liver is sound," and make a line of demarcation, "an interstitial infiltration," (if I may use the term) between the so-called horse doctors, and educated veterinarians. Then your horses and cattle will be kept in a healthy condition, and provide the country with good "beef and porker," and you will provide against "the colon" of your agricultural interests getting "rotten"and the "bowels black." By so doing you will be able to have veterinarians to diagnosticate diseases, and save the country millions of dollars; and you can then prognosticate a country that will be unsurpassed in veterinary science, the worm destroyers taking a back track and no longer destroying the profession with their insidious parasitic influence.

TRUTH.

EDITOR AMERICAN VETERINARY REVIEW:

Dear Sir.—For some time past the great advantages gained by studying our profession in European schools has been loudly vaunted in the pages of both your journal and those of a leading sporting paper; the prolific pen of one writer having been busily engaged in attempting to establish their superiority. A sceptical profession may not have appreciated the excellence claimed for these schools by the erudite Billings (who can at best be acquainted with but one side of the question), and I doubt if his argument will be

materially aided by an article that appeared in the last number of the REVIEW, nothwithstanding the fact that the M.R.C.V.S. who contributes the report referred to, proves that he possesses abilities not usually found among veterinary surgeons educated in America.

The anatomy I was taught while at college must be at fault, for the gentleman reports a case of an "incised wound of the metacarpus," (presumably metacarpal region), which was deep enough to enable him to lay "two fingers between the bone and the tendons touching the integument upon the opposite side." Interesting certainly, but how can he account for the absence of the superior suspensor ligament which is generally supposed to be situated upon the post face of the metacarpus?

A few lines further on we are informed that *one half drachm* of chloral hydrate was administered to quiet a very excitable animal. Is it possible that European education has some influence over the physiological or thereupeutic action of medicines? Presumably so, for although Dunn in the latest edition of his Veterinary Medicines gives from ℥i to ℥ii of chloral hydrate as the dose, and while I am not aware of its having been ever used before in America in smaller quantities than ʒii, it would in this case appear to have had the desired effect. It is a pity that a similar result cannot be obtained by the majority of practitioners.

But in nothing is the distinction between the graduates of the two continents so markedly manifest as in surgery. Mr. Plageman applied a tourniquet to control the hæmorrhage while the metacarpel artery was being ligated, and this having been done, allowed the tourniquet to remain without being slackened for *twenty-four hours;* nay, still more heroic, reapplied it for thirty-six hours to control "a slight continuous hæmorrhage!"

By what symptom was such treatment indicated?

There are other points of interest in the report of this case teaching me to look with still greater pride to an American school as my alma mater.

Respectfully,

NEMO.

REPORTS OF CASES.

INQUIRY FOR AN OBSCURE DIAGNOSIS.

By J. F. Winchester, D.V.S.

On November 14th, at 7 P. M., I was called to see a horse 10 years old, and obtained the following history. About one year ago he had an attack of "colic" and was treated with a cathartic, and for the past three weeks he has shown "weakness behind," most marked upon the right side, being quite lame while going down hill. When at rest he would roll, very stiff when started, but gradually becoming more limber with exercise. On November 12th, while standing in the shafts, he fell down, broke them and was only got up with some difficulty, but to this no attention was paid. On the 13th he fell again and more trouble being experienced in getting him up, he was taken out of harness and put into the barn, laid down that night and got up next morning. At noon on the 14th, he fell down on the right side and as he could not be raised, I was called, and found him still lying on that side, perspiring profusely and apparently in considerable pain, throwing the head round to the left side and grunting. Pulse at the time was 60 full, respirations 24 and labored, temperature 100° F.; on pricking him over the hind extremity I found sensation complete and could move the legs all right. He urinated and passed feces frequently and normally. Diagnosis——?. Prognosis: very grave.

These symptoms were gradually aggravated till next A. M., when he died at 10 o'clock. Post mortem made twenty-four hours after death. On opening the abdomen and removing the intestines, I found the colic arteries and veins full of blood and the mucus membrane of the colon deeply congested. The posterior aorta from where it leaves the diaphragm to the great mesenteric artery, showed four aneurismal sacs, that at the mesenteric being calcified. At the quadrification of the iliacs I found a clot of blood, yellowish in color and quite firm, extending into the right external and internal iliacs; the rest of the abdom-

inal viscera were normal. In the heart was found a clot similar to that in the iliacs. The spinal cord and brain were normal as far as the eye could distinguish.

What was the cause of death?

What are the diagnostic symptoms of aneurism other than those obtained by manipulation with the hand?

HYDROPS OVARII IN A MARE, CURED BY THE OPERATION OF OVARIOTOMY, PERFORMED *PER VAGINA*.

By G. P. Penniman, D.V.S.

The patient, a bay mare, eight years old, and the property of a gentleman in this city.

Symptoms of œstromania appeared about the first of last April, and continued until the time of the operation, Sept. 28, or over five months; showing when driven, the usual disagreeable actions, and especially when met or passed by another animal on the road, at such times voiding urine and switching the tail, thereby casting the fluid upon the vehicle and its occupants. The latter symptoms appearing most when the subject was excited in any way. Diagnosis: diseased condition of one or both ovaries; form, uncertain. Prognosis: favorable if castrated.

Experimental treatment was pursued in compliance with the owner's wishes, for four months, but with no perceptible results. Permitting the subject to become pregnant with the hopes of a cure thereby, was from past experience considered unadvisable.

The animal was prepared for the operation in two days by short allowance of laxative food and some exercise.

Sept. 28. Was operated upon in the following manner. After being confined in the stocks, the bladder and rectum were emptied. Then the vaginal speculum, concealed knife, and the hand were carried at once into the vagina, and placed in position, then an incision about three or four inches in length was made through the wall of the vagina near the os-uteri, great care being used to prevent wounding the rectum and adjacent bloodvessels. These instruments were then withdrawn, and the ecraseur intro-

duced with the hand through the incision into the abdominal cavity, the ovary found, and the chain placed over it, the hand grasping the ovary until removed with the ecraseur. The second ovary was removed by the same manipulations, which completed the operation. Anatomical appearances: the left ovary was nearly natural in size, perhaps a little enlarged, showing several cysts upon the external surface, which contained serum. Upon making a section of the gland, one large cyst was found containing about two tablespoonsful of clear serum. The walls of the cyst were hard and thickened, and the substance of the gland considerably diminished. The right ovary was in a normal condition.

Immediately after the operation, the patient was placed in a box-stall, where it laid down at once upon its side, remaining very quiet.

About three hours later there were slight chills, but they soon disappeared, and for four days she remained down nearly all the time, and seemed much disinclined to move.

There was little or no appetite. Temperature but slightly elevated, and pulse not much disturbed. On the evening of the second day following the operation (Sept. 30), was decidedly uneasy, being up and down frequently for about half an hour. An anodyne was administered, and an injection of warm water given; the symptoms soon ceased, and there was no further appearance of them afterwards.

The animal urinated easily, and defecation was aided by enemas daily.

Oct. 5. Remains in a standing position most of the time. Appetite increasing. Looks brighter.

Oct. 12. Upon vaginal examination a portion of the rectum was found adhering to the wound in the vagina, and the wound itself was healing rapidly, with but slight tumefaction of the parts.

Oct. 16. Was discharged.

Oct. 24. Was given gentle exercise in a road wagon, the animal being in high spirits, and showing no signs of the former trouble. She has been driven since then about the city and on the road enough to establish the fact of a cure.

PUNCTURED WOUND OF THE FOOT.

Editor *Veterinary Review.*

'Tis not that the case was in any way unique, that I send you the enclosed report, but, that recovery was so rapid, and promises soon to be complete. A young black gelding received a punctured wound of the near hind foot, in which the nail passed vertically through the frog, to the left of the median line, perforating the tendon of the flexor pedis perforans, and driving a portion of the cortical substance of the navicular bone into the cancellated structure, where it remained. The treatment commonly adopted in punctured wounds of the feet proving unavailing, it was finally determined to operate upon Nov. 8th.

Being kindly assisted by one of the students of the American Veterinary College, a good portion of the outer half of the sole was removed, about one-third of the entire frog, the other intervening soft tissues, and a crescentic-shaped piece of the flexor tendon, so that nearly a half of the inferior surface of the navicular was laid bare.

The portion contused by the nail was found firmly imbedded in the deeper parts of the bone, surrounded by tissue undergoing caries. The diseased bone tissue was carefully removed with the drawing knife, the wound dressed with carbolic solution, and ordered placed in cold water for forty-eight hours.

The synovial discharge from the navicular bursa ceased shortly after the operation, but inflammation, with a strong tendency to suppuration, rapidly spread along the tendon and through the connective tissue of the heel and adjacent parts, so that in a few days, a counter-opening was made in the hollow of the heel, from which considerable pus escaped, mixed with a copious discharge of synovial fluid. Immediately the surgical wound granulated rapidly, the opening closed, the injured bone was covered from sight in less than a week, and the entire wound healed in four weeks time.

The counter-opening discharged profusely for about two weeks; gradually losing its synovial character the pus became pure, diminished rapidly until the end of the fifth week, when the

wound was completely healed over and the animal using the foot quite well. No remedies were used in the treatment of the wounds except carbolic acid solution (1 to 20) with an occasional painting of the granulations with nitrate of silver. At no time did the constitutional symptoms become marked, the temperature never rising beyond 102.8° F., which was on the fourth day after the operation; the appetite was retained throughout and the animal lay down nearly every day. The inflammatory new formation at the coronet, always quite prolific in these cases, is rapidly undergoing resorption from the stimulus of a cantharides blister, so that there is a probability of the convalescence terminating shortly, without even a perceptible impairment of function.

A. A. HOLCOMBE.

NEW YORK STATE VETERINARY SOCIETY.

28TH REGULAR MEETING.

The regular monthly meeting of the New York State Veterinary Society was held at the American Veterinary College, on Dec. 12th, at 8 o'clock p.m., the President, Dr. Robertson, in the chair.

The following gentlemen answered the roll call:—Drs. Liautard, Robertson, Burden, Bell, Lockhart, McLean, Coates, P. Nostrand, Field, Hopkins, Holcombe and Rose.

The minutes of the previous meeting were read and adopted, with the following correction:—A gold medal to be offered to the student who shall pass the best examination at the American Veterinary College, on any subject selected by the Committee, instead of a pocket case.

The Committee appointed to investigate the standing of Mr. J. B. Coleman, reported progress.

Dr. Liautard offered the name of C. H. Hall, D.V.S., of 1436 3rd Avenue, New York City, graduate of the American Veterinary College, as applicant for membership, which was referred by the chair to a committee, composed of Drs. Lockhart, Burden, and P. Nostrand, to report at the next meeting.

Both a majority and minority report were received from the committee appointed to determine upon a plan of action to protect the interest of the veterinary profession in this state, and was laid upon the table.

It was then moved and seconded that the reports be accepted and the committee discharged—Carried.

It was moved and seconded that a committee be appointed to draw an act of incorporation of the Society, and to call the attention of all the graduates in the State of New York in good standing, to its existence, asking them to join our Society, said committee to report at next meeting—Carried.

The chair appointed Dr. Liautard as said committee, with power to call for assistance from the members.

The Treasurer's report was received, showing a balance of seventeen dollars.

The Society now proceeded to the election of office-bearers, which, on ballot, resulted in the election of Dr. McLean as President, Dr. Robertson, Vice President, and Coates, Secretary and Treasurer.

Dr. Robertson, on leaving the chair, gave a short history of the Society, how it was conducted, and the progress it had made, and appointed Dr. Field to escort the President-elect to the chair.

Dr. McLean, on taking the chair, expressed the gratification it gave him to assume that office, and expressed the hope that the Society would make its influence still more felt.

Dr. Hopkins vacated the Secretary's chair, and Coates took his place.

It was moved by Dr. Robertson, and seconded that the first order of the business be the reading of the papers, with their discussion, and the routine business to follow; laid on the table till next meeting.

Dr. Robertson then read his paper on "Granular Dermititis," the discussion of which was postponed till next meeting.

Dr. Field volunteered to read a paper at the next meeting on "Mastication and Digestion."

Moved and seconded that the Society adjourn—Carried.

W. J. Coates, D.V.S.,
Secretary.

OPENING OF THE ONTARIO VETERINARY COLLEGE.

The Ontario Veterinary College opened its 16th session on October 30th. The opening lecture was delivered by Professor Smith, who congratulated the large gathering of students on the good progress they had made during the past winter. If only the same diligence and energy continue to characterize them in the future as it has done in the past, their future success is undoubted.

He impressed upon them the necessity of diligence and perseverence, expressing the opinion that mere lengthened period of study will never make a successful practitioner.

In the course of his remarks the Professor referred to his extended visit this summer to the colleges of the Old World, and could truthfully assure the students of this college that in point of appliances we were not behind some of the most successful colleges of Europe. The progress of a student, however, depends as much on his own individual exertion, as on the advantages a good institution may afford him, and judging by the eminent success which has crowned the graduates of Toronto in past years, we may confidently look forward to still greater success in the case of the large number of students now gathered together.

The prospects for the session are very encouraging. Of our many students attending, a large number are from the United States. Many more intend entering in January. Those now here are applying themselves with diligence to the work of the session. In addition to the regular sessional work, a students' society for mutual improvement meets once a week. The first meeting for the session was held on Tuesday, November 5, and was largely attended. A report of the proceedings is enclosed. In this connection it may be stated that at some future meeting the president of the society, Dr. Smith, will give to the members an account of his tour of inspection among the colleges of Europe, made during the past summer.

HUMAN AND VETERINARY SCIENCE.

From the Medical Record, September 25, 1875.

UNSUCCESSFUL PRACTITIONERS.

Dear Sir:—To enter into the medical profession with brilliant hopes, given by good and thorough education, with much enthusiasm, patience, and perseverence, the whole backed up by a few thousand dollars, and meet with the disappointments that "Diploma" has had in practice, you must admit is more than sufficient to excuse his long letter with its series of complaints. He may console himself in thinking that he is probably not the only one whose hopes have been thus deceived, as no doubt the number of physicians exceed by a great amount the requirements of our population. But if such is the case, he may ask, What is he to do? Medicine he likes; study he enjoys; and he hates to give up the medical profession, for which he has already done so much. I will say to him, then, there is a sister branch of medicine which is almost entirely overlooked in this country—which counts but very few amongst its regular members—whose interest is not less than the one he belongs to—whose scientific connections are equal to it—whose influences are no less beneficial (though in a different point of view), and whose financial rewards will. I have no doubt, be satisfactory to the most sanguine; in other words, let "Diploma" and his like unfortunate confrères give attention to Comparative Medicine, to *Veterinary Medicine;* let him become a scientific, graduated veterinarian, and I feel certain that in a very short time he will write you a different letter from that which was published in the last number of *The Record.*

Yours truly,

M. D. V. S.

From the Medical Record, October 16, 1875.

SUCCESSFUL PRACTITIONERS.

Mr. Editor:—I have been much amused, and I hope edified, by the perusal of the letters of your correspondents "Diploma"

and "Success," but I was totally unprepared for such a shock as I received upon reading the communication of M. D. V. S. Even now, I can scarcely believe that it is not a huge joke, perpetrated by some quizzical *successful* practitioner. There was a time, sir, when it was deemed an honor to belong to a learned profession—when a degree in divinity, law or physic conferred dignity upon a man; but O tempora! O mores! how have the professions fallen from their high estate. Quackery abounds in all of them, but the temples of Æsculapius have been most befouled by his priests.

Under the pretext of ministering to the public weal, we have advertising in its most specious forms. We find dispensaries, private and municipal, parading their special advantages, thereby cheapening physic, and indirectly calling attention to the superior qualifications of their medical staffs. We have medical bath houses, mineral springs of all kinds, with "medical directors" or superintendents in charge; "homes for invalids," "private hospitals," and "retreats" of all sorts kept by medical boarding-house keepers, who board, lodge and physic their patients for a consideration. Then we have medico-chirurgical *tradesmen* or *mechanics*, under which heading may be classed the makers of artificial legs, braces, abdominal supporters, etc., who flaunt their easily acquired M.D. in every public print, and trade under the grandiloquent titles of orthopædic or mechanical surgeons, electricians, etc., etc. Passing by (with due reverence) the female doctors (why not doctresses?), we come to the dentists—always a most useful but humble class—whose use of the absurd degree "D.D.S." has played sad havoc with that ancient and reverend title Divinitatis Doctor. And here let me ask why the cuppers, leechers, barbers and nurses are left without a degree? We have already Tennessee "Doctors of Pharmacy" to confuse with the Ph. D.'s; and to cap the climax, we are to have doctors of veterinary medicine, "*a sister branch*" of our divine art, as your correspondent, M. D. V. S., most facetiously calls it.

Heaven help the profession of physic, when its disappointed members shall be obliged to become "horse doctors," even though "the financial rewards be satisfactory to the most sanguine."

Seriously, Mr. Editor, did your correspondent M. D. V. S. intend to insult the profession?

E. N. R. O. B. E. L. C.

PORTSMOUTH, N. H., 28th September, 1875.

HARFORD COUNTY (MD.,) MEDICAL SOCIETY.

Pursuant to adjournment, the regular meeting of the Medical Society of Harford County was held in Churchville, on Tuesday, November 12th, 1878. The Society was called to order by the President, Dr. W. W. Hopkins.

The minutes of the last regular and special meetings were read by the Secretary and approved.

Dr. R. D. Lee, lecturer for the day, being absent, was continued as lecturer at next regular meeting.

The society ordered that "Sick Headache" be discussed by the members, in addition to the regular subject, at our next meeting.

The following resolutions were presented by Dr. W. Stump Forwood:

Resolutions in regard to the establishing of Colleges for the education of Veterinary Physicians:

Whereas, In consideration of the fact that there are so few educated *Veterinary Physicians* in our county, notwithstanding the existence in our midst of such an immense number of domestic animals, so essential to man's use and sustenance, at all times liable to require the physician's aid; therefore be it

Resolved, That we of the Medical Society of Harford county, Maryland, suggest to the American Medical Association, through our delegates at its next meeting, the propriety of taking cognizance of, and action in the premises, and respectfully advise it, in the exercise of its weighty and wide-spread influence, to recommend the establishment of Veterinary Colleges, to be conducted by strictly scientific professors; and that the Association also advise many of the young men of the country to enter this new

and ungleaned field, instead of increasing the already over-crowded ranks of the regular medical profession.

The above resolutions were ordered to be spread on the Secretary's minute book.

Dr. Forwood and others made the following remarks viz:

If a horse is sick, the village blacksmith prescribes aloes, turpentine, nitre, young chickens, Scotch snuff, new milk, and a host of other things, without knowing what for; with the result more deaths than cures. Among the multiplicity of remedies, some may do good. From the fact that the unskilled have had and still have it in their hands, it has brought the profession into disrepute. Do away with ignorance and educate the people, or rather a doctor for such cases. As the medical field is crowded, so the field in veterinary surgery is open. The practice would be more lucrative than the regular profession, for a time at least. Any persons who own stock would be willing to pay for medical attention. For many years the profession would pay well. Some would object to the respectability of the veterinary, but it is just as respectable to treat lower animals as the higher. There is no reason why it should be otherwise. Notice the great saving of money, too. I know of a fine horse, valued at $10,000, that was killed by driving a nail in the foot, when the doctor, for say $20, could have cured the animal.

It is proper here to state that it would be impossible to combine the professions. One branch or the other must suffer for want of time to attend.

The regular medical subjects being discussed at length by the members present, after partaking of a bountiful and elegant dinner, prepared by the host, Mr. Sauner, they adjourned to meet on the second Tuesday in May, 1879, at Bel Air.

H. Clay Whiteford, M.D.,
Secretary.

OBITUARY.

On the 23d of November, Mr. W. A. Murphy, V.S., practising in Cambridge, Mass., died of heart disease. Graduate of Montreal in the spring of 1877, he was recently elected a member of the United States Veterinary Medical Association. A bright and pleasant young man, upright in all his dealings, and very industrious, had his life been spared he would have been a credit to his teachers, and done honor to his profession.